

## **Version with Markings to Show Changes Made**

The paragraph beginning on page 10, line 3 was substituted with the following paragraph.

**Figure 1.** A schematic of the L-lysine biosynthetic pathway in *Corynebacterium glutamicum* (Sahm *et al.*, *Ann. N.Y. Acad. Sci.* 782: 25-39 (1996)).

A paragraph at page 11, lines 11-12, has been deleted and a paragraph substituted therefore as follows:

**Figure 19.** comparison of the aspartokinase (ask) amino acid sequence from ATCC13032 (SEQ ID NO: 35) N13 (SEQ ID NO: 36) and ATCC21529 (SEQ ID NO: 2). The consensus sequence (SEQ ID NO: 37) is also shown.

A line has been deleted at page 47, line 12, and a line substituted therefore as follows:

*ask:* 5'-GGGTACCTCGCGAAGTAGCACCTGTCAC-3' (SEQ ID NO: 22);

A line has been deleted at page 47, line 13, and a line substituted therefore as follows:

*asd:* 5'-GC GGATCCCCATCGCCCCTCAAAGA-3' (SEQ ID NO: 23);

A line has been deleted at page 47, line 14, and a line substituted therefore as follows:

*dapB:* 5'-AACGGGCGGTGAAGGGCAACT-3' (SEQ ID NO: 24);

A line has been deleted at page 47, line 15, and a line substituted therefore as follows:

*dapA:* 5'-TGAAAGACAGGGGTATCCAGA-3' (SEQ ID NO: 25);

A line has been deleted at page 47, line 16, and a line substituted therefore as follows:

*ddh*: 5'-CCATGGTACCAAGTGCCTGGCGAG-3' (SEQ ID NO: 26);

A line has been deleted at page 47, line 17, and a line substituted therefore as follows:

5'-CCATGGTACCAACTGTTCCCTTGC-3' (SEQ ID NO: 27);

A line has been deleted at page 47, line 18, and a line substituted therefore as follows:

*argS*: 5'-CTGGTTCCGGCGAGTCGGAGGCCGACCATTCCGCGAGG-3' (SEQ ID NO: 28); and

A line has been deleted at page 47, line 19, and a line substituted therefore as follows:

*lysA*: 5'-CTCGCTCCGGCGAGGTGGAGGCAACTCTGCGACG-3' (SEQ ID NO: 29), a

A line has been deleted at page 57, line 20, and a line substituted therefore as follows:

*ask*: 5'-GGGTACCTCGCGAAGTAGCACCTGTCAC-3' (SEQ ID NO: 22)

A line has been deleted at page 57, line 21, and a line substituted therefore as follows:

*asd*: 5'-GCGGATCCCCATCGCCCCTCAAAGA-3' (SEQ ID NO: 23)

A line has been deleted at page 57, line 22, and a line substituted therefore as follows:

*dapB*: 5'-AACGGGCGGTGAAGGGCAACT-3' (SEQ ID NO: 24)

A line has been deleted at page 57, line 23, and line substituted therefore as follows:

*dapA* 5'-TGAAAGACAGGGTATCCAGA-3' (SEQ ID NO: 25)

A line has been deleted at page 57, line 24, and a line substituted therefore as follows:

*ddh1*: 5'-CCATGGTACCAAGTGCGTGGCGAG-3' (SEQ ID NO: 26)

A line has been deleted at page 57, line 25, and a line substituted therefore as follows:

*ddh2*: 5'-CCATGGTACCACACTGTTCCTTGC-3' (SEQ ID NO: 27) Kpn I

sites:GGTACC (SEQ ID NO: 30)

A line has been deleted at page 57, line 26, and a line substituted therefore as follows:

*argS*: 5'-CTGGTTCCGGCGAGGTCGAGTGGAGGCCATTCCGCGAGG-3' ()SEQ ID NO:

28

A line has been deleted at page 57, line 27, and a line substituted therefore as follows:

*lysA*: 5'-CTCGCTCCGGCGAGGTCGAGGCAACTTCTGCGACG-3' (SEQ ID NO:

29)

A line has been deleted at page 58, line 3, and a line substituted therefore as follows:

*UCdral*: 5'-GGATCTTCACCTAGATCC-3' (SEQ ID NO: 31)

A line has been deleted at page 58, line 4, and a line substituted therefore as follows:

*UcsspI*: 5'-CCCTGATAAAATGCTTC-3' (SEQ ID NO: 32)

A line has been deleted at page 64, line 2 and a line substituted therefore as follows:

*lysA* (ATG); CCGGAGAAGATGTAACAATGGCTAC (SEQ ID NO: 33)

A line has been deleted at page 64, line 3, and a line substituted therefore as follows:

*LysA3B*: CCTCGACTGCAGACCCCTAGACACC (SEQ ID NO: 34)

**Figure 26.** The amino acid sequence of truncated Lys-A ('LysA) (NRRL-B11474) (SEQ ID NO: 21). Underlined L: the last amino acid residue of lysA encoded in the truncated product.

The paragraph beginning on page 43, line 7 was substituted with the following paragraph.

Applicants have deposited clones carrying the pK184-KDABH'L multi-gene constructs at an acceptable International Depositary Authority in accordance with the Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure. The deposits have been made with the Agricultural Research Service, Culture Collection (NRRL), 1815 North University Street, Peoria, Illinois 61604. Deposits made in which the pK184-KDAB or pK184-KDABH'L multi-gene constructs have been integrated into the chromosome of a host cell include the following: (1) the pK184-KDAB plasmid, integrated into the chromosome, deposited as NRRL-B30219 and NRRL-B30221 on September 16, 1999 and (2) the pK184-KDABH'L plasmid, integrated into the chromosome, deposited as NRRL-B30218, NRRL-B30220, and NRRL-B30222 on September 16, 1999. In addition, the pK184-KDABH'L multigene construct in a plasmid configuration, carried in *E.coli*DH5 $\alpha$ MCR, was deposited as NRRL-B30228 on September 29, 1999, and the pK184-KDAB isolated plasmid in E.coli was deposited as NRRL-B30628 on September 17, 2002. E.coli comprising pD11-

KDABH'L was deposited as NRRL-B30629 on September 17, 2002. The six-gene construct (pDElia2-KDABHL) was deposited in *E.coli* (NRRL-B30233) on December 16, 1999. *C. glutamicum* comprising pK184-KDABH'L was deposited as NRRL-B30236 on December 16, 1999. *C. glutamicum* comprising pK184-KDABHL was deposited as NRRL-B30237 on December 16, 1999. *C. glutamicum* comprising pDElia2-KDABHP1L was deposited as NRRL-B30359 on October 31, 2000. *Brevibacterium flavum* comprising pDElia2-KDABHL was deposited as NRRL-B30234 on December 16, 1999. *Brevibacterium lactofermentum* comprising pDElia2-KDABHL was deposited as NRRL-B30235 on December 16, 1999.

### **Remarks**

By entry of the foregoing amendment, the specification has been amended to provide the SEQ ID NO's next to the specific sequence or designation of the specific sequence (see, for example, page 11). Other amendments are also provided.

In accordance with 37 C.F.R. § 1.821(g), this submission includes no new matter. Entry of these amendments is respectfully requested.

### **Conclusion**

It is respectfully believed that the present application is in condition for examination and allowance. Early notice to this effect is earnestly solicited. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this Application, the Examiner is invited to telephone the undersigned at the number provided.

Respectfully submitted,



Dated: September 2, 2004

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**In the Drawings:**

Please substitute the attached Figure 13 for pending Figure 13.